

REMARKS

Claims 1-20 are pending. Claims 1-4, 7-14 and 17-20 are withdrawn from consideration as being drawn to the non-elected species. Claim 5 is amended to correct a typographical error. As such, the amendment is supported by the specification and the claims as originally filed. No new matter is added.

The Office Action rejected claims 5-6 and 15-16 under 35 U.S.C. § 103(a) as obvious over Ahluwalia (U.S. Patent No. 5,032,224) in view of WO 97/06304 (see Maeda et al., U.S. Patent No. 6,248,209) (hereinafter "Maeda et al.") and Holton (U.S. Patent No. 4,012,280). This rejection is traversed.

Ahluwalia discloses the use of "a digestive additive selected from the group consisting essentially of anionic surfactants, nonionic surfactants, and anionic/nonionic surfactant blends" (Ahluwalia, column 3, lines 28-31), wherein the "digestive additives are selected from the group comprising alpha-sulfo alkyl esters, alkaryl sulfonates, alkyl sulfates, alkyl sulfosuccinates, alkanolamides, alkyl polyoxyalkene glycol ethers, and mixtures thereof" (Ahluwalia, column 3, lines 37-42).

Ahluwalia also discloses butyl ethyleneoxide-propyleneoxide block copolymers ("EO-PO") (Ahluwalia, column 7, lines 27-28). However, Applicants note that Ahluwalia disclose EO-PO as a "preferred nonionic surfactant material" (Ahluwalia, column 7, line 22-29) (emphasis added).

Ahluwalia also discloses the use of "known pulping chemicals such as, for example, anthraquinone and derivatives thereof and/or other paper typical paper chemicals, such as caustics, defoamers and the like" (Ahluwalia, column 7, line 51 to column 8, line 2 and Table I).

Applicants respectfully submit that Ahluwalia is distinguished from the presently claimed invention in that Ahluwalia does not teach or suggest the use of anionic surfactant (C), (D) or (E) (see, e.g. claim 5). The anionic surfactants of Ahluwalia (see, e.g. Ahluwalia, columns 3-4) are not the same as anionic surfactant (C) of the presently claimed invention. For example, anionic surfactant (C) of claim 5 has the general formula (5) of $R^6-SO_3M^1$, where R^6 is a straight-chain, branched or cyclic aliphatic hydrocarbyl group containing 4-24 atoms and M^1 is a monovalent cation (claim 5). Applicants respectfully submit that anionic surfactant (C) is distinguished from the anionic surfactants disclosed by Ahluwalia as follows:

(1) Ahluwalia's alpha-sulfo alkyl esters, which include moieties of formula (I) (Ahluwalia, column 3, lines 50-66), differ from anionic surfactant (C) recited in claim 5 in that they do not have a "-C(=O)-OR' group".

(2) Ahluwalia's alkaryl sulfonates, which include moieties of formula (II) (Ahluwalia, column 3, line 67 to column 4, line 17), are aromatic compounds. In contrast, anionic surfactant (C) recited in claim 5 is an aliphatic compound, not an aromatic compound.

(3) Ahluwalia's alkyl sulfates, which include moieties of formula (III) (Ahluwalia, column 4, lines 18-27) are literally sulfates. In contrast, anionic surfactant (C) recited in claim 5 is not a sulfate, but a sulfonate. In other words, anionic surfactant (C) of the presently claimed invention can be distinguished from the alkyl sulfates of Ahluwalia in that anionic surfactant (C) does not have an -O- group.

(4) Ahluwalia's alkyl sulfosuccinates, which include moieties of formula (IV), are literally sulfosuccinates. In contrast, anionic surfactant (C) recited in claim 5 is a sulfonate, not a sulfosuccinate.

In view of the above distinctions between Ahluwalia's anionic surfactants and the anionic surfactant (C) of claim 5 or the elected species, Applicants respectfully submit that the anionic surfactants used by Ahluwalia do not cover anionic surfactant (C) of claims 5-6 and 15-16 or the elected species, e.g., n-tetradecyl-SO₃Na.

Maeda et al. discloses "a method of bleaching cellulose pulp" which may use "compound (U) represented by general formula (1)" of " $R^1-O-[(C_2H_4)_n/(AO)_n]-H$ (1)" (Maeda et al., column 1, line 66 to column 2 line 7). Although general formula (1) may include ionic surfactant isodecyl-O-(PO)₁-(EO)₁₀-H, Applicants respectfully submit that there is no teaching or suggestion in Maeda et al. that would lead a person of ordinary skill in the art to use isodecyl-O-(PO)₁-(EO)₁₀-H in particular. For instance, none of Examples 1-6 of Maeda et al. discloses the O-(PO)₁-(EO)₁₀-H portion of the nonionic surfactant, much less isodecyl-O-(PO)₁-(EO)₁₀-H. Thus, Applicants respectfully submit that it would not have been obvious for those of skill in the art to substitute the isodecyl-O-(PO)₁-(EO)₁₀-H of Maeda et al. for the nonionic EO-PO surfactant of Ahluwalia.

Further, Applicants respectfully submit that Maeda et al. do not satisfy the deficiencies of Ahluwalia et al. as Maeda et al. do not teach or suggest anionic surfactants (C), (D) or (E) of general formula (5), (6) or (7) of the presently claimed invention (e.g., claim 5). Thus, Applicants respectfully submit that Maeda et al. fails to cure the deficiencies of Ahluwalia concerning claims 5-6 and 15-16 and the elected species.

Applicants also respectfully submit that Holton does not teach or suggest the addition of anionic surfactants (C), (D) or (E) of formula (5), (6) or (7) in a digestive assistant for the alkaline slurry of cellulose pulp. Thus, Holton also fails to cure the deficiencies of Ahluwalia concerning claims 5-6 and 15-16 or the elected species.

Because Maeda et al. and Holton do not cure the deficiencies of Ahluwalia concerning claims 5-6 and 15-16 or the elected species, as related to anionic surfactant (C), (D) or (E) of formula (5), (6) or (7), or n-tetradecyl-SO₃Na of the elected species, Ahluwalia in view of Maeda et al. and Holton fails to render claims 5-6 and 15-16 obvious generically or over the elected species.

Further, Applicants respectfully submit that claims 5-6 and 15-16 or the elected species is not rendered obvious, as the combination of Ahluwalia in view of Maeda et al. and Holton fails to disclose the use of isodecyl-O-(PO)₁-(EO)₁₀-H as a nonionic surfactant in a digestion assistant for the alkaline digestion of lignocellulosic material.

Thus, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 5-6 and 15-16 in view of WO 97/06304 (Maeda et al.) and Holton.

In view of the amendments and remarks above, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon.

In the event this paper is not considered to be timely filed, Applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2300, referring to Attorney Docket No. 103176-00001.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, referencing Attorney Docket No. 103176-00001.

Respectfully submitted,

A handwritten signature in cursive script, reading "Amy Schoenhard". The signature is written in dark ink and is positioned above a horizontal line.

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